

## ABSTRACT

A protecting route design method is disclosed for a communication network including a plurality of nodes having preset information on a protecting route to switch over  
5 in parallel from a working route thereto when link or node failure occurs, according to a failure notification message including failure location information being transmitted from a failure detection node to each node. The protecting route design method includes the steps of searching a  
10 protecting route which can minimize a transfer time of the failure notification message from the failure detection node; and then, updating the searched protecting route to a protecting route having a spare communication capacity sharable for a different failure and having a route  
15 switchover time to be completed within a given time limit.

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